What is claimed is:

1. An optical disc including a data area and a time map area,

the data area recording a video object that includes a plurality of data units, each of which contains at least one picture, and

5 the time map area recording a table showing recording addresses of data units, the addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the data units

10 containing a picture to be reproduced at a corresponding one of the plurality of reproduction times, wherein

the table records difference times, each of which corresponds to one of the plurality of reproduction times shown in the table and is a difference between the one of the plurality

15 of reproduction times and a reproduction time of the first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

2. A recording apparatus for recording video data onto an

20 optical disc, comprising:

an input unit operable to receive input video data to be recorded;

a compressing unit operable to compress the input video data and generate a video object containing a plurality of data

25 units, each of which contains at least one picture;

a writing unit operable to write data onto the optical disc; and

a control unit operable to control the writing unit, wherein

30 the control unit

(a) controls the writing unit to write the video object onto

the data area of the optical disc,

(b) generates a table showing recording addresses of data
units, the addresses corresponding to a plurality of
reproduction times that belong to a period during which
5   the video object is reproduced, each of the data units
containing a picture to be reproduced at a corresponding
one of the plurality of reproduction times,

(c) calculates and stores, into the table, difference times,
each of which corresponds to one of the plurality of
10   reproduction times shown in the table and is a difference
between the one of the plurality of reproduction times
and a reproduction time of the first picture of a data
unit that includes a picture to be reproduced at the one
of the plurality of reproduction times, and

15 (d) controls the writing unit to write the table into the time
map area of the optical disc.

3. A recording method for use in a recording apparatus for
20 recording onto an optical disc a video object containing a
plurality of data units, each of which contains at least one
picture, the recording method comprising the steps of:

writing data onto a data area of the optical disc;
generating a table showing recording addresses of data
25 units, the addresses corresponding to a plurality of
reproduction times that belong to a period during which the
video object is reproduced, each of the data units containing
a picture to be reproduced at a corresponding one of the
plurality of reproduction times; and

30   writing the table onto a time map area of the optical disc;
wherein the table generating step includes

a sub-step of calculating and storing, into the table, difference times, each of which corresponds to one of the plurality of reproduction times shown in the table and is a difference between the one of the plurality of reproduction times and a reproduction time of the first picture of a data unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

4. A reproducing apparatus for reproducing the video object recorded on the optical disc defined in Claim 1, the reproducing apparatus comprising:

a reading unit operable to read data from the optical disc;

a reproducing unit operable to reproduce the video object; and

a control unit operable to control the reading unit and the reproducing unit, wherein

the control unit

(a) controls the reading unit to receive an input reproduction start time and read the table,

(b) controls the reading unit and the reproducing unit to identify a data unit that includes a picture to be reproduced at the input reproduction start time by referring to the read table and start reproducing in accordance with the identified data unit,

(c) identifies the first picture of the identified data unit by referring to a difference time corresponding to the identified data unit, and

(d) controls the reading unit and the reproducing unit to start the reproducing with the identified first picture.

5. A reproduction method for use in a reproducing apparatus including (a) a reading unit operable to read data from the optical disc defined in Claim 1 and (b) a reproducing unit operable to reproduce a video object, the reproduction method comprising the steps of

receiving an input reproduction start time;

controlling the reading unit to read the table;

identifying a data unit that includes a picture to be reproduced at the input reproduction start time by referring to the read table; and

a reading/reproducing step for controlling the reading unit and the reproducing unit to start reproducing in accordance with the identified data unit, wherein

the reading/reproducing step includes

a sub-step of controlling the reading unit and the reproducing unit to identify the first picture of the identified data unit by referring to a difference time corresponding to the identified data unit, and start the reproducing with the identified first picture.

6. A computer-readable recording medium recording a program for use in a recording apparatus for recording onto an optical disc a video object containing a plurality of data units, each of which contains at least one picture, the program allowing a computer to execute the steps of:

writing the video object onto a data area of the optical disc;

generating a table showing recording addresses of data units, the addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the data units containing

a picture to be reproduced at a corresponding one of the plurality of reproduction times; and

writing the table onto a time map area of the optical disc, wherein the table generating step includes

5   a sub-step of calculating and storing, into the table, difference times, each of which corresponds to one of the plurality of reproduction times shown in the table and is a difference between the one of the plurality of reproduction times and a reproduction time of the first picture of a data

10 unit that includes a picture to be reproduced at the one of the plurality of reproduction times.

7. A computer-readable recording medium recording a program for use in a reproducing apparatus that includes (a) a reading

15 unit operable to read data from the optical disc defined in Claim 1 and (b) a reproducing unit operable to reproduce the video object, the program allowing a computer to execute the steps of:

receiving an input reproduction start time;

20   controlling the reading unit to read the table;

identifying a data unit that includes a picture to be reproduced at the input reproduction start time by referring to the read table; and

a reading/reproducing step for controlling the reading

25 unit and the reproducing unit to start reproducing in accordance with the identified data unit, wherein

the reading/reproducing step includes

a sub-step of controlling the reading unit and the reproducing unit to identify the first picture of the

30 identified data unit by referring to a difference time corresponding to the identified data unit, and start the

reproducing with the identified first picture.